

Stigmatizing effects of weight status on lay perceptions of eating disorder-related distress

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Abstract

The present study examined how weight status would affect lay perceptions of a White female student presenting signs of eating disorder-related distress. We recruited a mixed-gender, weight-diverse U.S. community sample through Mechanical Turk ($N=130$; 49.2% female) to complete an online survey. Participants were randomly assigned to one of two conditions in which they read a personal statement section of a college application revealing eating disorder-related distress from a student who was either 'overweight' or 'underweight.' Participants evaluated the student on need for support, behavioural prescriptions for eating and exercise, and personal qualities. Although participants recognized a serious mental health concern in both conditions, they were more likely to prescribe eating disorder behaviors to the higher weight student. Findings suggest that weight stigma may bias lay perceptions of and even reinforce an eating disorder when exhibited by higher weight individuals.

Introduction

Eating disorders (EDs) are commonly stereotyped as afflictions of slim, White, young women. Individuals that display symptoms of EDs but do not adhere to this stereotype frequently go undiagnosed and untreated (Strother et al., 2012; Taylor et al., 2007). Higher weight individuals represent one such population. Despite being at greater risk of subthreshold and clinical EDs (Lipson & Sonnevile, 2017), symptoms of EDs often go unrecognized in this population or may even be lauded as appropriate weight management behavior (LaMarre et al., 2017; Lebow et al., 2015), in effect reducing access to treatment and prolonging distress (Gotovac et al., 2020; Sim et al., 2013). A robust body of research has identified widely-held stigmatizing attitudes toward higher weight individuals in ED research and praxis (Calogero et al., 2016; Kinavey & Cool, 2019). Although barriers to appropriate treatment clearly exist at point of access to healthcare, there is a dearth of experimental research on the role of weight-stigmatizing assumptions in lay perceptions of ED-related distress in higher weight individuals. Lay communities comprise family members, peers, partners, and co-workers, who are often the first to notice signs of ED-related distress, thereby representing critical agents for intervention (Levine & Piran, 2001). Thus, the purpose of the current study was to examine whether weight-based stereotypes operate in lay perceptions of ED pathology.

Weight stigma is a ubiquitous form of social stigma that primarily targets higher weight individuals in nearly every domain of daily living (Puhl & King, 2013). Experienced and internalized weight stigma have been linked to serious health consequences for higher weight individuals, including, but not limited to, disordered eating, substance use and dependence, self-harm, healthcare avoidance, and higher risk of chronic morbidity and mortality, independent of BMI and other relevant covariates (Meadows & Calogero, 2018; Tomiyama, 2014). Weight stigma is underpinned by weight-based stereotypes that cast

higher weight individuals as lazy, impulsive, unhealthy, unattractive, unintelligent, and lacking in willpower and self-discipline (Puhl & Brownell, 2001). These weight-based stereotypes exist alongside beliefs that weight is controllable and that weight loss is desirable and achievable for those who try hard enough (Calogero et al., 2019). Given the pervasiveness of these stereotypes and the moral imperative for higher weight individuals to pursue weight loss (Saguy & Gruys, 2010), laypeople may be more likely to rely on weight-based stereotypes and heuristics to guide perceptions of ED behaviour. Specifically, lay perceptions of clinically significant ED symptomatology may be influenced by the weight status of the individual in a pattern consistent with stereotypes attributed to higher weight individuals.

In the current study, we tested whether participants would be more likely to prescribe and reinforce problematic ED behaviours in the form of caloric restriction, weight cycling, yo-yo dieting, and intense body dissatisfaction when an individual was described as higher weight versus lower weight. We expected core features of EDs would be prescribed to a greater extent for the higher weight individual compared to the lower weight individual. We also tested whether weight status would affect more global evaluations and attitudes of the student. We expected more derogation and devaluation of the higher weight student compared to the lower weight student.

Method

Participants and procedure

One hundred and fifty mixed-gender, weight-diverse adults residing in the US were recruited through Amazon Mechanical Turk and participated for \$1.00 compensation. Twenty participants failed the attention check or did not complete the survey and were excluded. A total of 64 women and 66 men comprised the final sample ($N = 130$), with an average age of 36.36 ($SD = 11.73$, ranging from 20 to 73). Most participants were White

(83.1%), followed by African American (6.9%), Asian American (4.6%), Hispanic (3.8%), Native American (0.8%), and Not Listed Here (0.8%). The majority of the participants reported higher education with either a Bachelor's degree (51.9%) or Graduate degree (10.9%), followed by completion of high school (31.8%) and completion of primary school (5.4%).

Participants were randomly assigned to read a personal statement from an ostensible college application of a White female student who indicated either 'overweight' ($n = 68$) or 'underweight' ($n = 62$) as their weight status¹ in the profile information. The content of the personal statement was derived from a clinical ED case example posed by Burgard (2009) to illustrate the assumptions that people make based on weight. The statement revealed the presence of severe caloric restriction, preoccupation with weight, food, and calories, food rituals, bingeing and purging, yo-yo dieting, body shame, and withdrawal from activities (Burgard, 2009; see Appendix A). After reading the application, participants reported their perceptions of the student across a number of domains related to the material they read². Finally, participants provided demographic information and were debriefed.

Dependent Measures

All items are presented in Table 1. For the purpose of the current study, items were created to reflect specific behavioral prescriptions, assumptions, and attributions related to eating and exercise that may be differentially endorsed for higher weight and lower weight individuals if weight stigma is shaping perceptions of eating-related distress (Burgard, 2009). These items also reflect common notions about dieting and weight loss advice, which have been shown to be harmful to physical and psychological well-being (Mann et al., 2007;

¹ Herein referred to as the higher weight and lower weight student (Meadows & Daniélsdóttir, 2016)

² Data were collected for two potential covariate measures at the end of the survey—the Universal Measure of Weight Bias for Obese Persons and the Perceptions of Teasing Scale; however there was a high level of missing values for these measures due to a technical error, and the overall size of the sample precluded an appropriately powered analysis of these data.

Tomiyama et al., 2018). A total of 67 items were rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Participants evaluated the student on the *presence of an eating disorder* (1 item), *perceived need for support* (5 items), *prescriptions for current and future eating-related and exercise-related behavior* (12 items), *perceived quality of interpersonal and social roles* (9 items), *personality traits and attributions* (27 items), and *capacity for subjective experiences* (13 items).

Results

After the exclusions noted above, no missing data were observed for the key dependent variables. Between-group differences were tested for each set of variables, with each item within a variable domain analyzed individually. We applied a Bonferroni correction to adjust for the multiple comparison tests ($.05/67 = .0007$) at $p < .001$. Means, standard deviations, and univariate tests are presented in Table 1. Approximate cut-offs for effect sizes based on partial eta-squared are 0.01 for small, 0.06 for medium, and 0.14 for large.

Presence of an Eating Disorder

An ANOVA demonstrated that participants were slightly less likely to perceive that the higher weight (versus lower weight) student had an ED, but this difference was not significant at the $p < .001$ level, univariate $n_p^2 = .048$.

Perceived Need for Support

A MANOVA demonstrated no significant effect of condition on the perceived need for support items, Pillai's $= .087$, $F(5, 124) = 2.37$, $p = .043$, multivariate $n_p^2 = .087$.

Prescriptions for Current and Future Behavior

A MANOVA demonstrated a significant effect of condition on the behavioral prescription items, Pillai's $= .428$, $F(13, 116) = 6.68$, $p < .001$, multivariate $n_p^2 = .428$.

Follow-up univariate ANOVA tests demonstrated significant group differences for six of the

behavioral prescription items. Specifically, compared with the lower weight student, participants were more likely to agree that the higher weight student “should lose the 5 pounds she has regained recently,” and less likely to agree “should regain the weight she lost by eating more for a while.” Participants were also more likely to agree that the higher weight student “should keep recording everything she is eating,” and “should do whatever it takes to reach her goal weight,” compared with the lower weight student. Finally, participants were more likely to agree that the higher weight student “should continue to exercise even though it makes her miserable,” and less likely to agree the student “should avoid strenuous exercise,” compared with the lower weight student. The remaining seven behavioral prescription items did not significantly differ between groups.

Perceived Quality of Interpersonal and Social Roles

A MANOVA demonstrated a significant effect of condition on the interpersonal and social role items, Pillai's = .287, $F(9, 120) = 5.38$, $p < .001$, multivariate $n_p^2 = .287$. Follow-up univariate ANOVA tests demonstrated significant group differences for two of the items. Specifically, compared with the lower weight student, participants were more likely to agree that the higher weight student “would feel more positive about dating if they lost some weight,” and “has a reason to be embarrassed in a swimsuit.”

Personality Traits and Attributions

A MANOVA demonstrated a significant effect of condition on the trait attributions, Pillai's = .451, $F(27, 102) = 3.11$, $p < .001$, multivariate $n_p^2 = .451$. Follow-up univariate ANOVA tests demonstrated significant group differences for three of the trait attributions. Specifically, compared with the lower weight student condition, participants were less likely to agree that the higher weight student was “determined” and “active,” and more likely to agree she was “capable of reasoning.”

Capacity for Subjective Experiences

A MANOVA demonstrated no significant effect of condition on subjective experiences attributed to the student, Pillai's $\lambda = .108$, $F(13, 116) = 1.08$, $p = .380$, multivariate $\eta_p^2 = .108$.

Discussion

Weight stigma influences how people understand, perceive, and behave toward others based on their body size, shape, and perceived weight across multiple sectors and situations (Meadows & Calogero, 2018; Setchell et al., 2015; Tillman et al., 2007). The current study was a preliminary experimental investigation of specific weight-stigmatizing perceptions toward higher weight individuals in the context of an ED. We found no difference in participants' recognition of an eating disorder or need for support as a function of weight status. However, consistent with our predictions, we observed a distinctly different pattern between the two conditions for the eating and exercise-related behaviors that were prescribed and prohibited. That is, when the individual was described as higher weight compared to lower weight, participants were more likely to agree that the individual should do whatever it takes to reach their goal weight, continue to record everything that is eaten, exercise strenuously, and lose the five pounds that were regained recently, despite exhibiting the same level of distress. Participants also strongly disagreed that the higher weight student should eat more to regain recently lost weight compared to the lower weight student. Overall, the higher weight student was not globally derogated or devalued, but their engagement in ED symptoms was more likely to be legitimized.

The findings suggest that participants were more likely to associate the student's distress with being a higher weight than with the eating behavior itself, which was observed in *prescribing* core features of EDs (e.g., dietary restriction, compensating for food intake, fear of fat and weight gain) to the higher weight (but not lower weight) student. In other

words, being higher weight was perceived as a more serious problem for the student than engaging in clinically significant ED behaviour. The prescription of weight loss and ED behaviours for higher weight individuals not only perpetuates ED pathology, but may also undermine physical and psychological health, and contribute to greater weight instability and weight cycling (e.g., Liechty & Lee, 2013; Mann et al., 2007; Tomiyama, 2014; Tylka et al., 2019), thus exposing an insidious form of weight stigma that often goes unrecognized in weight-centered cultures (Tylka et al., 2014). Even in the face of undeniable eating-related distress, where respondents in both conditions recognized an ED, their evaluations of the higher weight student reflected support for the pursuit of weight loss, suggesting those ED behaviors were viewed as less problematic and even necessary for individuals in higher weight bodies.

Future research is needed to replicate these findings in larger, more diverse lay samples to determine generalizability and examine potential moderators of these effects (e.g., gender, ethnicity). We also encourage further examination of these ideas in ED and healthcare professionals, as weight stigma in healthcare settings affects treatment decision-making (Phelan et al., 2015; Rathbone et al., 2020). In addition, we designed the dependent measures for this study and therefore this set of items has not been previously validated. The novelty and nuance of these items allowed us to assess understudied components of weight stigma that may reinforce eating pathology in higher weight individuals; however future research should validate and further extend the measures used here.

Despite these limitations, this study further highlights the entrenchment of weight stigma in lay perceptions of higher weight individuals displaying ED symptoms. Our findings support the need for community-based ED education that explicitly challenges common societal assumptions about fatness and weight-based stereotypes that legitimize and reinforce

ED attitudes and behaviors, and undermine efforts to intervene and treat higher weight individuals with EDs.

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